

## CLAIMS

- 1        1. A method of lithography for enhancing uniformity of critical dimensions of  
2 features patterned onto a workpiece using a multipass writing strategy, the method  
3 comprising the actions of:
  - 4            - coating said workpiece with a coating sensitive to an energy beam,
  - 5            - providing an energy beam source,
  - 6            - determining an individual dose for each pass so that each pass will  
7            affect said coating essentially equal, thereby enhancing said uniformity  
8            of critical dimension,
  - 9            - exposing said coating in said multipass writing strategy by using said  
10           individual dose for each pass,
  - 11           - developing said coating.
- 12       2. The method according to claim 1 further comprising the action of:
  - 2            - creating said features by a spatial light modulator.
- 1        3. The method according to claim 1, wherein said energy beam source is a  
2 electromagnetic radiation source emitting pulsed radiation in the range of EUV-DUV.
- 1        4. The method according to claim 1, further comprising the action of:
  - 2            - creating said features by a modulator and deflector arrangement  
3            capable of deflecting and setting the intensity of said radiation beam.
- 1        5. The method according to claim 1, further comprising the action of:
  - 2            - creating said features by a diffraction grating.
- 1        6. The method according to claim 1, wherein said method comprises 2 exposure  
2 passes, of which a first exposure pass has a dose less than half of an exposure

3 threshold and a second exposure pass has a dose greater than half of the exposure  
4 threshold.

1 7. The method according to claim 1, wherein said method comprises 3 exposure  
2 passes or more, of which said dose is increased linearly for every following pass.

1 8. The method according to claim 1, wherein said method comprises 3 exposure  
2 passes or more, of which said dose is increased exponentially for every following  
3 pass.

1 9. The method according to claim 1, wherein said method comprises 3  
2 exposure passes or more, of which said dose is increased logarithmically for every  
3 following pass.

1 10. The method according to any one of claims 1-9, wherein each portion  
2 of said workpiece is patterned with a first exposure pass before exposing a next  
3 exposure pass.

1 11. The method according to claim 10, wherein said portions are exposed  
2 in the same direction.

1 12. The method according to claim 10, wherein said portions are exposed  
2 in alternating directions.

1 13. The method according to any one of claims 1-12, wherein the dose of  
2 the last exposure is within the range of 40% to 60% higher than the first exposure.

1 14. The method according to any one of claims 1-12, wherein the dose of  
2 the last exposure is within the range of 45% to 55% higher than the first exposure.

1 15. The method according to claim 1, wherein the coating sensitive to  
2 electromagnetic radiation is a chemically amplified resist (CAR).

1 16. The method according to claim 1, wherein said workpiece is a mask substrate.

1 17. The method according to claim 13 or 14, wherein four writing passes are  
2 used.